



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,004	09/11/2003	Marc Van Moescke	DECL68.001AUS	7482
20995	7590	03/31/2006	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP			PIZIALI, ANDREW T	
2040 MAIN STREET			ART UNIT	
FOURTEENTH FLOOR			PAPER NUMBER	
IRVINE, CA 92614			1771	
DATE MAILED: 03/31/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/661,004

Applicant(s)

MOESEKE, MARC VAN

Examiner

Andrew T. Piziali

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment and RCE filed on 2/13/2006 have been entered. The examiner has withdrawn the objection to claim 2 based on the amendment to claim 2.

Claim Rejections - 35 USC § 102/103

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8, 10-14, 17 and 20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPN 5,883,018 to Bourgois et al. (hereinafter referred to as Bourgois).

Regarding claims 1-8, 10-14, 17 and 20, Bourgois discloses a cut-resistant composite comprising a matrix (protective textile, column 1, lines 5-7), provided on at least one side with a fabric (layer of steel fibers (100), Figures 5, 6 and 10), at least one insulating layer (layer of synthetic threads (146), Figures 5, 6 and 10) interposed between said matrix and said fabric, wherein the fabric consists of two individual layers of steel thread (Figure 10 and column 6, lines 10-17) containing steel fiber reinforcement elements ((100), Figure 1), that are not interwoven

Art Unit: 1771

but have an indirect connection created by a stitching, tufting, or knitting yarn ((148), Figures 5, 6 and 10) which is weaker than the reinforcement elements, and wherein the individual layers of reinforcement elements are superimposed onto each other (see entire document including Figures 5, 6 and 10, and column 5, line 13 through column 6, line 17). Bourgois discloses that the composite can comprise three fabric layers (each comprising a layer of reinforcement elements) with three different orientations that build a well-known triangular structure (column 6, lines 10-17). Therefore, considering that the angles of a conventional (well-known) equilateral triangle are 60°, Bourgois inherently discloses that said composite comprises individual layers of reinforcement elements wherein the layers are arranged under an angle with respect to each other that is between 1 and 89°.

Bourgois does not specifically mention the claimed cut resistance of more than 10 Newtons, but considering that the steel fiber fabric disclosed by Bourgois is identical to the claimed cut-resistant fabric, it appears that the fabric inherently possesses the claimed cut resistance.

The Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

Regarding claim 2, Bourgois discloses that in each of the layers reinforcement elements are provided in only one same direction (see Figure 10).

Regarding claims 3 and 4, Bourgois discloses that fabric may comprise free spaces between the elements and that the volume of the spaces may be between 3% and 99% of the total volume of the fabric (see Figure 10).

Regarding claims 5-7, Bourgois discloses that another insulating layer (upper layer of synthetic threads (146), Figure 10) may be provided on the other side of the fabric.

Regarding claims 6 and 7, Bourgois discloses that steel cords may form the warp, the weft, or the warp and the weft (column 1, lines 57-59). Therefore, in the embodiment wherein the steel cords form the warp and weft ((100) and (146), Figure 10), the insulating layers are able to act as electrical conductors and are capable of activating an alarm signal.

Regarding claim 8, Bourgois discloses that an insulating layer (middle layer of synthetic threads (146), Figure 10) may be provided between two layers of individual elements of the fabric.

Regarding claims 10-12, Bourgois discloses that at least one side of the composite may be provided with a coating which gives the fabric one or more functions including self-adhesion and/or a metallic (conductive) corrosion resistance (column 5, line 46 through column 6, line 9).

Regarding claims 13 and 14, Bourgois discloses that the reinforcement elements may be steel (conductive) fibers (100) that may be insulated from each other by synthetic threads (146) (column 3, lines 30-35, column 5, lines 32-37, and Figure 10).

Regarding claim 17, Bourgois discloses that the reinforcement elements in the fabric may have an indirect connection with the insulating layer created by chemicals, plastics, or rubber

Art Unit: 1771

(column 5, line 46 through column 6, line 9), or by connection elements ((148), Figure 10) such that the connection force between the elements and the layer is weaker than the reinforcement elements (see column 5, lines 32-37 and Figure 10).

Regarding claim 20, Bourgois discloses that the composite may be used as a protective textile clothing (cover) (column 1, lines 5-7).

Claim Rejections - 35 USC § 103

5. Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,883,018 to Bourgois as applied to claims 1-8, 10-14, 17 and 20 above, and further in view of USPN 6,517,659 to VanderWerf et al. (hereinafter referred to as VanderWerf).

Regarding claim 9, Bourgois discloses that the matrix may be a protective textile (column 1, lines 5-7), but Bourgois does not mention specific protective textile materials. Bourgois is silent with regards to specific materials, therefore, it would have been necessary and thus obvious to look to the prior art for conventional materials. VanderWerf provides this conventional teaching showing that it is known in the puncture resistant fabric art to use woven polyester as a puncture resistance fabric (see entire document including column 3, lines 48-66). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the matrix from woven polyester fibers motivated by the expectation of successfully practicing the invention of Bourgois.

Regarding claims 9 and 16, Bourgois discloses that the insulating layer may be made of aramide fibers (column 5, lines 13-15), but Bourgois does not appear to mention using one of the claimed materials for the insulating material. VanderWerf discloses that it is known in the puncture resistant fabric art to use polyester fibers as puncture resistant fiber material (see entire

Art Unit: 1771

document including column 3, lines 48-66). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the insulating fibers from any suitable puncture resistant fibrous material, such as polyester fibers, because polyester fibers are functionally equivalent viable alternative puncture resistant fibers to aramide fibers, and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

6. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,883,018 to Bourgois (as applied to claims 1-8, 10-14, 17 and 20 above).

Bourgois discloses that reinforcement elements consisting of twisted small diameter filaments are preferred for flexibility, but that the greater the filament diameter the greater the stab resistance (column 2, lines 9-22). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the reinforcement elements from any suitable fiber material, such as single ends (single large diameter fibers), because some applications do not require or desire flexibility and/or because some applications require a very high degree of stab resistance, and because it is within the general skill of a worker in the art to select a known fiber structure on the basis of its suitability and desired characteristics.

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,883,018 to Bourgois as applied to claims 1-8, 10-14, 17 and 20 above, and further in view of Applicant's Admission of Prior Art.

Bourgois discloses that the composite may be used as an insert in protective textiles such as clothing (column 1, lines 5-7), but Bourgois does not appear to mention joints or weakening points for enabling folding of the composite. The applicant discloses that it is known in the cut-

Art Unit: 1771

resistant fabric art to provide joints or weakening points in steel fibers to enabling folding thereof (see page 6 of the response filed on 8/24/2005). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide said joints or weakening points in the reinforcement elements of Bourgois, because the joints or weakening points would enable the inset to be folded and/or shaped to fit inside a protective textile.

8. Claims 1-8, 10-14, 17-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,883,018 to Bourgois in view of USPN 6,526,862 to Lyons.

Regarding claims 1-8, 10-14, 17-18 and 20, Bourgois discloses a cut-resistant composite comprising a matrix (protective textile, column 1, lines 5-7), provided on at least one side with a fabric (layer of steel fibers (100), Figures 5, 6 and 10), at least one insulating layer (layer of synthetic threads (146), Figures 5, 6 and 10) interposed between said matrix and said fabric, wherein the fabric consists of two individual layers of steel thread (Figure 10 and column 6, lines 10-17) containing steel fiber reinforcement elements ((100), Figure 1), that are not interwoven but have an indirect connection created by a stitching, tufting, or knitting yarn ((148), Figures 5, 6 and 10) which is weaker than the reinforcement elements, and wherein the individual layers of reinforcement elements are superimposed onto each other (see entire document including Figures 5, 6 and 10, and column 5, line 13 through column 6, line 17). Bourgois does not specifically mention the claimed cut resistance of more than 10 Newtons, but considering that the steel fiber fabric disclosed by Bourgois is identical to the claimed cut-resistant fabric, it appears that the fabric inherently possesses the claimed cut resistance.

In the event that it is shown that Bourgois does not teach or suggest arranging the individual layers of reinforcement elements under an angle with respect to each other of between

Art Unit: 1771

1 and 89°, Lyons is relied upon to disclose that it is known in the fabric armor art to arrange individual layers of reinforcement elements under an angle with respect to each other of between 20 to 70° to result in a garment that weighs less, is more flexible, more compact, and more moisture vapor breathable (see entire document including column 3, lines 5-32). It would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange the individual layers of reinforcement elements under an angle with respect to each other of between 20 to 70°, as taught by Lyons, because the resulting garment would weigh less, be more flexible, be more compact, and be more moisture vapor breathable.

Regarding claim 2, Bourgois discloses that in each of the layers reinforcement elements are provided in only one same direction (see Figure 10).

Regarding claims 3 and 4, Bourgois discloses that fabric may comprise free spaces between the elements and that the volume of the spaces may be between 3% and 99% of the total volume of the fabric (see Figure 10).

Regarding claims 5-7, Bourgois discloses that another insulating layer (upper layer of synthetic threads (146), Figure 10) may be provided on the other side of the fabric.

Regarding claims 6 and 7, Bourgois discloses that steel cords may form the warp, the weft, or the warp and the weft (column 1, lines 57-59). Therefore, in the embodiment wherein the steel cords form the warp and weft ((100) and (146), Figure 10), the insulating layers are able to act as electrical conductors and are capable of activating an alarm signal.

Regarding claim 8, Bourgois discloses that an insulating layer (middle layer of synthetic threads (146), Figure 10) may be provided between two layers of individual elements of the fabric.

Art Unit: 1771

Regarding claims 10-12, Bourgois discloses that at least one side of the composite may be provided with a coating which gives the fabric one or more functions including self-adhesion and/or a metallic (conductive) corrosion resistance (column 5, line 46 through column 6, line 9).

Regarding claims 13 and 14, Bourgois discloses that the reinforcement elements may be steel (conductive) fibers (100) that may be insulated from each other by synthetic threads (146) (column 3, lines 30-35, column 5, lines 32-37, and Figure 10).

Regarding claim 17, Bourgois discloses that the reinforcement elements in the fabric may have an indirect connection with the insulating layer created by chemicals, plastics, or rubber (column 5, line 46 through column 6, line 9), or by connection elements ((148), Figure 10) such that the connection force between the elements and the layer is weaker than the reinforcement elements (see column 5, lines 32-37 and Figure 10).

Regarding claim 18, Bourgois discloses that reinforcement elements consisting of twisted small diameter filaments are preferred for flexibility, but that the greater the filament diameter the greater the stab resistance (column 2, lines 9-22). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the reinforcement elements from any suitable fiber material, such as single ends (single large diameter fibers), because some applications do not require or desire flexibility and/or because some applications require a very high degree of stab resistance, and because it is within the general skill of a worker in the art to select a known fiber structure on the basis of its suitability and desired characteristics.

Regarding claim 20, Bourgois discloses that the composite may be used as a protective textile clothing (cover) (column 1, lines 5-7).

Art Unit: 1771

9. Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,883,018 to Bourgois in view of USPN 6,526,862 to Lyons as applied to claims 1-8, 10-14, 17-18 and 20 above, and further in view of USPN 6,517,659 to VanderWerf.

Regarding claim 9, Bourgois discloses that the matrix may be a protective textile (column 1, lines 5-7), but Bourgois does not mention specific protective textile materials. Bourgois is silent with regards to specific materials, therefore, it would have been necessary and thus obvious to look to the prior art for conventional materials. VanderWerf provides this conventional teaching showing that it is known in the puncture resistant fabric art to use woven polyester as a puncture resistance fabric (see entire document including column 3, lines 48-66). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the matrix from woven polyester fibers motivated by the expectation of successfully practicing the invention of Bourgois.

Regarding claims 9 and 16, Bourgois discloses that the insulating layer may be made of aramide fibers (column 5, lines 13-15), but Bourgois does not appear to mention using one of the claimed materials for the insulating material. VanderWerf discloses that it is known in the puncture resistant fabric art to use polyester fibers as puncture resistant fiber material (see entire document including column 3, lines 48-66). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the insulating fibers from any suitable puncture resistant fibrous material, such as polyester fibers, because polyester fibers are functionally equivalent viable alternative puncture resistant fibers to aramide fibers, and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Art Unit: 1771

10. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,883,018 to Bourgois in view of USPN 6,526,862 to Lyons as applied to claims 1-8, 10-14, 17-18 and 20 above, and further in view of Applicant's Admission of Prior Art.

Bourgois discloses that the composite may be used as an insert in protective textiles such as clothing (column 1, lines 5-7), but Bourgois does not appear to mention joints or weakening points for enabling folding of the composite. The applicant discloses that it is known in the cut-resistant fabric art to provide joints or weakening points in steel fibers to enabling folding thereof (see page 6 of the response filed on 8/24/2005). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide said joints or weakening points in the reinforcement elements of Bourgois, because the joints or weakening points would enable the inset to be folded and/or shaped to fit inside a protective textile.

Response to Arguments

11. Applicant's arguments filed 2/13/2006 have been fully considered but they are not persuasive.

The applicant asserts that Bourgois does not teach or suggest the claimed composite because the claimed invention is drawn to a fabric wherein the reinforcement elements are not interwoven while Bourgois is drawn to a composite wherein the fabric is woven. The examiner respectfully disagrees. While Bourgois does mention woven fabrics, the currently claimed invention does not exclude a woven fabric, rather, it excludes a fabric wherein the reinforcement elements are woven. The invention of Bourgois is not drawn to a fabric wherein the reinforcement elements are woven.

The applicant asserts that Bourgois fails to teach or suggest at least two individual layers of reinforcement elements wherein the layers are arranged under an angle with respect to each other that is between 1 and 89°. The examiner respectfully disagrees. Bourgois discloses that the composite can comprise three fabric layers (each comprising a layer of reinforcement elements) with three different orientations that build a well-known triangular structure (column 6, lines 10-17). Therefore, considering that the angles of a conventional (well-known) equilateral triangle are 60°, Bourgois inherently discloses that said composite comprises individual layers of reinforcement elements wherein the layers are arranged under an angle with respect to each other that is between 1 and 89°.

In the event that it is shown that Bourgois does not teach or suggest arranging the individual layers of reinforcement elements under an angle with respect to each other of between 1 and 89°, Lyons is relied upon to disclose that it is known in the fabric armor art to arrange individual layers of reinforcement elements under an angle with respect to each other of between 20 to 70° to result in a garment that weighs less, is more flexible, more compact, and more moisture vapor breathable (see entire document including column 3, lines 5-32). It would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange the individual layers of reinforcement elements under an angle with respect to each other of between 20 to 70°, as taught by Lyons, because the resulting garment would weigh less, be more flexible, be more compact, and be more moisture vapor breathable.

The applicant asserts that unexpected results rebut a prima facie showing of obviousness because the composite shows improved cutting resistance due to the positioning of the layers. The examiner respectfully disagrees. Bourgois discloses that by forming subsequent and

Art Unit: 1771

different spatial angles the cutting resistance of a fabric increases (column 5, lines 40-45). In addition, the applicant has provided no evidence that the positioning of the layers directly affects the cutting resistance, any evidence that the results are unexpected, or any evidence that the results are unexpected to the extent of overcoming a prima facie showing of obviousness.

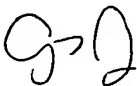
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

atp

 3/1/06
ANDREW T. PIZIALI
PATENT EXAMINER